

Old Grade Road Bridge
Spanning the Brashear Drainage Ditch
(Salt River) on Old Grade Road
Brashear vicinity
Adair County
Missouri

HAER No. MO-47

HAER
MO,
1-BBAY,

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
U. S. Department of the Interior
P. O. Box 37127
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD

Old Grade Road Bridge

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Location: On Old Grade Road over the Brashear Drainage Ditch (Salt River), 1.50 mile south of Brashear on the section line between Sections 31 and 32, Township 62 North, Range 13 West, 500 feet south of the quarter corner, in Adair County, Missouri

UTM: Zone 15/N4442150/E54740
Quad: Brashear 7.5 minute series

Date of Construction: 1924, following the excavation of a new channel for the Salt River. No significant modifications followed.

Present Owner: Adair County
Adair County Court House
Kirksville, Missouri

Present Use: Vehicular bridge; to be replaced in 1989.

Significance: One of less than five known skewed high Pratt through truss bridges in Missouri.

Historians: Tom Gage, PhD
Craig Sturdevant
John Carrel

I. HISTORY

A. Need for the Bridge

The Old Grade Road Bridge came into being as a result of a six-mile-long ditch, which was excavated to provide a new channel for the Salt River. An agreement was made between the Brashear Drainage District Association and Adair county, in which the association was to pay for construction or repair damages to county roads and bridges within the drainage district. The new channel required a new bridge, if the Old Grade Road was to continue to be useful. The association agreed to pay for construction of this new bridge, which is currently called Old Grade Road Bridge.

B. Construction Chronology:

Excavation of the new channel for the Salt River began in 1922 at a point approximately one-half mile downstream from the original Old Grade Road Bridge, where the river intersected the Santa Fe Railroad. The Old Grade Road would have been the first feature intersected by the ditch excavations. Long-time residents living near the ditch remember the bridge being completed and children crossing it to go to school during the 1923-1924 school year (personal communication, Dorothy and Homer Johnson, Brashear, Missouri). The bridge was also present, they recall, when the school burned down in 1925. The bridge remains essentially unmodified, with the exception of the replacement of all but one panel of the steel town lattice rail with simple two angle iron rail. Due to the private funding of the construction of the bridge, details of specifications, including costs, engineer, construction firm, and other information, are not part of the public record, as is the case for county-constructed bridges. It is probable that the bridge was constructed by the same firm that constructed the Chicago, Burlington and Quincy Railroad bridge one mile upstream, given similarity of construction materials.

II. THE BRIDGE

The Old Grade Road Bridge is a riveted construction Pratt high through truss, with a 45 degree skew to the left. The seven panel bridge is 160 feet long by 14 feet wide, out to out. The top chords and inclined end posts are formed of 1/4 by 14-inch plate over 9-inch channel iron with lattice strapping. The vertical posts are I-shaped in form and composed of two sets of 2.5 by 3-inch abutted angle iron with an intervening steel lattice. The counter bracing and hip verticals are also formed by two pairs of side abutted 3-inch angle iron, but are connected by riveted steel tabs at 8-inch intervals. The diagonals are formed by a single pair of 5 by 3.5-inch angle iron abutted edge to edge and held by steel straps

across their short sides at 8-inch intervals. The bottom chords are of the same construction as the diagonals, except they utilize heavier gage steel and 3 by 5-inch angles. The top and bottom lateral bracing is of 1.5-inch round bars. The portal bracing is a lattice form in four panels with diagonal vertical posts of bracketed 4-inch angle iron. The struts are of side to side abutted 5-inch angle iron. The deck is composed of six 8-inch I-beams and two 8-inch channels over 14-inch I-beam floor beams surfaced with asphaltic concrete on a corrugated iron base. The abutments are 24-inch steel I-beam pilings connected by four 6-inch angle iron in opposing pairs with the voids filled with concrete. A rubble of waste concrete and brick has been employed to control erosion around the abutments.

III. REFERENCES

Adair County records contain no mention of the Old Grade Road Bridge. The bridge was constructed with private funds, and a public record was apparently not required.

Information regarding the construction date was derived from interviews with several long-time older residents of Brashear and vicinity.